What is claimed is:

| 1 | 1. A method for providing a plurality of service functions to a |
|---|---|
| 2 | plurality of users by a storage system, comprising: |
| 3 | receiving a request by a user of said plurality of users for performance of |
| 4 | service function of said plurality of service functions; |
| 5 | checking if said service function is allowed by said storage system |
| 6 | according to a usage constraint, said usage constraint comprising a storage area needed b |
| 7 | said service function; and |
| 8 | when said service function is allowed, performing said service function by |
| 9 | said storage system. |
| 1 | 2. The method of claim 1 wherein said usage constraint further |
| 2 | comprises a user number limitation for said service function. |
| 1 | 3. The method of claim 1 wherein said receiving said request by said |
| 2 | user is via a server provider system (SPS). |
| 1 | 4. The method of claim 1 wherein said usage constraint comprises all |
| 2 | other storage areas needed by all current user of said service function on said storage |
| 3 | system. |
| 1 | 5. The method of claim 4 wherein said usage constraint is an |
| 2 | accumulation of storage areas of users of said service function. |
| 1 | 6. The method of claim 1 wherein all of said plurality of service |
| 2 | functions are turned on in said storage system. |
| 1 | A method for providing a service function to a user by a storage |
| 2 | system, comprising: |
| 3 | receiving a request by a user for performance of a service function; |
| 4 | checking if said service function is allowed by said storage system |
| 5 | according to a usage constraint, said usage constraint comprising a storage area needed b |
| 6 | said service function; and |
| 7 | when said service function is allowed, performing said service function by |
| 8 | said storage system. |

2

J 15.

plurality of users via a service provider system, comprising:

| 1 | 8. The method of claim 7 wherein said usage constraint further |
|---|--|
| 2 | comprises a user number limitation for said service function. |
| 1 | A service provider system for providing a plurality of service |
| 2 | functions to a plurality of users, comprising: |
| 3 | a storage system comprising said plurality of service functions, wherein a |
| 4 | service function of said plurality of service functions has a predetermined limit on a |
| 5 | number of said plurality of users that have access to said service function; and |
| 6 | a service provider server for providing said plurality of users with said |
| 7 | plurality of service functions of said storage system. |
| 1 | 10. The service provider system of claim 9 further comprising, a |
| 2 | second storage system comprising said plurality of service functions, wherein all service |
| 3 | functions of said plurality of service functions have been activated for use. |
| 1 | 11. The service provider system of claim 9 wherein said storage system |
| 2 | further comprises a user access information table for managing data of users of said |
| 3 | plurality of users having access to said storage system. |
| 1 | 12. The service provider system of claim 9 wherein said service |
| 2 | provider system further comprises a data management table including information for |
| 3 | identifying a user of said plurality of users, information on said service function, and |
| 4 | information for managing data on the user. |
| 1 | 13. The service provider system of claim 9 wherein storage system |
| 2 | further comprises a user access information table comprising information for identifying a |
| 3 | user of said plurality of users and a service function bit map for determining activated |
| 4 | service functions of said plurality of service functions for said user. |
| 1 | 14. The service provider system of claim 13 wherein said user access |
| 2 | information table further comprises an area capacity for each activated service function. |

A storage system for providing a plurality of service functions to a

9

| 3 | a user access information data structure indicating for a service function of |
|----|--|
| 4 | said plurality of service functions selected users of said plurality of users that have access |
| 5 | to said service function; |
| 6 | a controller for checking said user access information data structure, when |
| 7 | receiving a request from said service provider system for access by a user of said plurality |
| 8 | of users to said service function; and |
| 9 | a storage unit having a storage area for use by said service function, when |
| 10 | said controller indicates said user has access to said service. |
| 1 | 16. The storage system of claim 15 wherein said user access |
| 2 | information data structure further comprises a cumulative storage area value for some |
| 3 | users of said plurality of users having access to said service function. |
| 1 | 17. The storage system of claim 16 wherein said controller checks for |
| 2 | user access permission to said service function based on a result dependant upon a |
| 3 | number of said some users having access and said cumulative storage area value for said |
| 4 | some users. |
| 1 | 18. The storage system of claim 15 wherein said result is dependant |
| 2 | upon a position with respect to a curve of cumulative storage capacity versus number of |
| 3 | users, said curve representing a license from a vender to said service provider. |
| 1 | 19. The storage system of claim 15 wherein said user access |
| 2 | information data structure is a table. |
| 1 | 20/ A method for providing a plurality of service functions on a |
| 2 | plurality of storage systems to a plurality of users via a service provider system, said |
| 3 | method comprising: |
| 4 | said service provider system receiving a request for performance of a |
| 5 | service function of said plurality of service functions from a user of said plurality of |
| 6 | users; |
| 7 | determining a selected storage system of said plurality of storage systems |

calculating a storage area needed by said service function; and

based on said user and said service function;

8 9

10

11

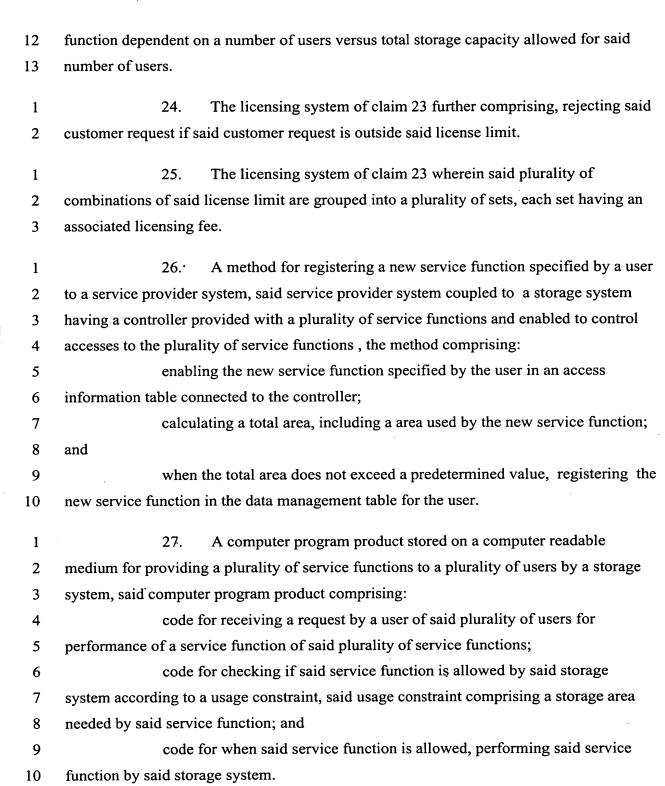
service function; and

| 10 | when said storage area added to a total storage area currently required by |
|-----|--|
| 11 | other users of said service function on said selected storage system does not exceed a |
| 12 | predetermined total capacity for said service function on said selected storage system, |
| 13 | using said storage area to perform said service function. |
| | |
| . 1 | 21. A method of payment, using a computer, for services from a |
| 2 | service provider system to a storage system, wherein said service provider system |
| 3 | provides a plurality of service functions of said storage system to a plurality of users, said |
| 4 | method comprising: |
| 5 | for a service function of said plurality of service functions, determining a |
| 6 | set of limitations based on a total number of users of said service function and a total |
| 7 | capacity of storage areas used by said total number of users; |
| 8 | setting a price for each limitation in said set; and |
| 9 | paying a given price for a selected limitation of said set, such that an actual |
| 10 | number of users of said service function on said storage system and an actual total |
| 11 | capacity of storage area used by said actual number of users does not exceed said selected |
| 12 | limitation. |
| 1 | 22. The method of payment of claim 21 wherein said storage system |
| | checks that said actual number of users and said actual total capacity of storage areas used |
| 2 | |
| 3 | by said actual number of users does not exceed said limitation. |
| 1 | 23. A licensing system of a storage system for monitoring a service |
| 2 | provider system having a plurality of customers using a plurality of service functions, |
| 3 | comprising: |
| 4 | said plurality of service functions stored on said storage system; |
| 5 | a access table comprising authorized customers of said plurality of |
| 6 | customers that have access to a service function of said plurality of service functions and |

a license checking routine for receiving a customer request for said service function from said service provider system, and determining if said customer request is within a license limit, said license limit having a plurality of combinations for said service

a total capacity of storage area needed by said authorized customers when using said

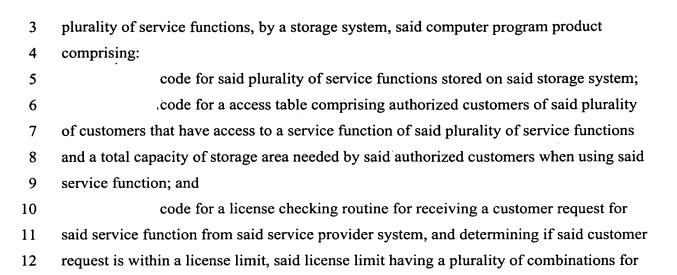
2



28. A computer program product stored on a computer readable medium for licensing a service provider system, having a plurality of customers using a

14

allowed for said number of users.



said service function dependent on a number of users versus total storage capacity